

(19)



Europäisches Patentamt

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(11)

EP 0 987 865 A3

(12)

## EUROPEAN PATENT APPLICATION

(88) Date of publication A3:  
30.07.2003 Bulletin 2003/31

(51) Int Cl.7: H04L 27/26

(43) Date of publication A2:  
22.03.2000 Bulletin 2000/12

(21) Application number: 99306633.1

(22) Date of filing: 20.08.1999

(84) Designated Contracting States:  
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE**  
 Designated Extension States:  
**AL LT LV MK RO SI**

(30) Priority: 15.09.1998 US 153393

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(54) **Avoidance of spurious emissions from xDSL transmission**

(57) To avoid spurious energy radiation from a wire-line communication resource (42-44) supporting data over voice, such as in xDSL, modems (40, 46) supporting a multi-carrier transmission scheme undertake a line balance assessment (136-138) for each sub-channel carrier within the system. Specifically, an addressed modem (40) measures, for example, the signal to noise ratio of a differential transmission mode and a common transmission mode to provide the balance assessment (138). More particularly, a receive chain in the addressed modem is selectively switched (84) to receive

the differential mode as appearing across the terminals of an isolation transformer (66) or the common mode (as seen with respect to ground) from a centre tap (88) in a line-side winding (70) of the isolation transformer (66). Any sub-channel carrier that fails to provide a pre-determined level of balance (140) is de-selected (141) by the modem and not used for traffic. Generally, the modems (40, 46) at both ends of the wireline connection (42-44) notify one another of selected sub-channels, while the concept can be employed in a dynamic in-call fashion (152, 158-160).

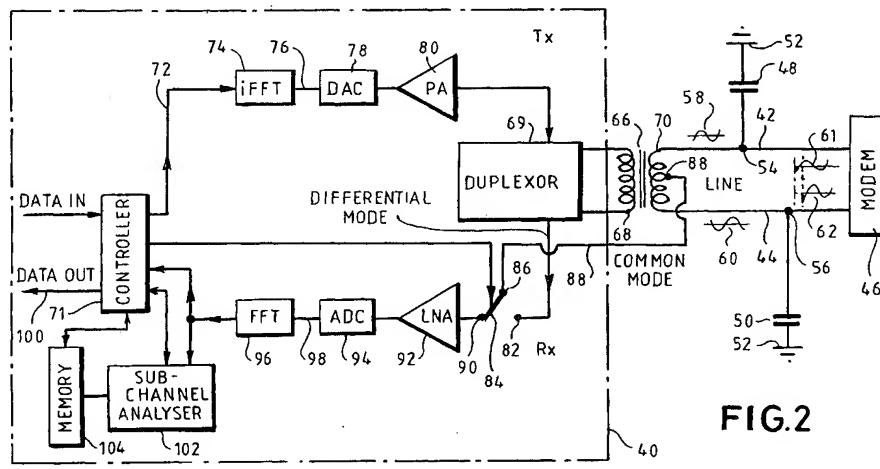


FIG.2



DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.7)		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim			
A	SJOEBERG ET AL: "Digital RFI suppression in DMT-based VDSL systems" IEEE INTERNATIONAL CONFERENCE ON TELECOMMUNICATIONS, 21 - 25 June 1998, pages 189-193, XP001014258 New York, US * page 189, right-hand column, paragraph 5 * ---	1,15,29	H04L27/26		
A	US 5 778 048 A (GEUN-HO KIM) 7 July 1998 (1998-07-07) * abstract *	1,15,29			
A	WO 97 40608 A (AMATI COMMUNICATIONS) 30 October 1997 (1997-10-30) * page 9, line 11 - line 16 *	1,15,29			
T	STOLLE R: "ELECTROMAGNETIC COUPLING OF TWISTED PAIR CABLES" IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS, vol. 20, no. 5, June 2002 (2002-06), pages 883-892, XP001143155 -----		<div style="display: flex; justify-content: space-between;"> <div style="flex: 1;"> <p>TECHNICAL FIELDS SEARCHED (Int.Cl.7)</p> </div> <div style="flex: 1;"> <p>H04L H04B</p> </div> </div>		
The present search report has been drawn up for all claims					
Place of search	Date of completion of the search	Examiner			
THE HAGUE	5 June 2003	Scriven, P			
CATEGORY OF CITED DOCUMENTS					
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document					
T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document					

ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.

EP 99 30 6633

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on. The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

05-06-2003

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